

Allen Firth

Senior Backend Engineer and Solution Architect | C#/.NET, ASP.NET Core, NodeJS, Azure, SQL

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PROFILE

Senior backend engineer and solution architect with 25+ years (since 2001) of building production systems for trading, capital markets, law, insurance, sport and retail clients, including LSEG, Uniper, Anglo American, Clifford Chance, EDF Trading and Chelsea FC. I design and build APIs and distributed, event-driven systems on C#/.NET, Node.js and Azure (Functions, Event Hubs, Service Bus), real-time pipelines (SignalR, WebSockets) and data platforms on SQL Server, PostgreSQL, Cosmos DB and Azure Data Factory. Recent client engagements have skewed towards frontend rewrites, but I have consistently designed and built backend systems in parallel on my own products. Former CTO; co-founded a multi-tenant CQRS SaaS platform acquired in 2022. Remote via my consultancy, CodeStream, after six and a half years contracting in London; AI-first since June 2025.

Engagement model: independent contractor, B2B through my consultancy CodeStream; fully remote.

KEY SKILLS

- Backend and APIs:** C#, .NET / ASP.NET Core, Web API, Node.js, GraphQL, OAuth partner APIs, SignalR, WebSockets, EF, Dapper
- Distributed and event-driven:** Azure Functions, Event Hubs, Service Bus, CQRS (Mediatr), event sourcing (Marten, Wolverine), NServiceBus, MSMQ
- Data:** SQL Server / Azure SQL, PostgreSQL, Azure Cosmos DB, MongoDB, Azure Data Factory, Azure Synapse, data lakes, Power BI
- Cloud, DevOps and observability:** Azure, Azure AD / AD B2C, Azure DevOps, GitHub Actions, TeamCity, CI/CD, Docker, App Insights, Serilog
- Architecture and practice:** solution architecture, multi-tenant SaaS, legacy modernisation, systems integration (SAP, IBM Integration Bus), performance, TDD, automated testing, Agile / SAgile, technical leadership
- Full-stack and AI:** TypeScript, React, Angular; AI coding agents, AI-assisted TDD and refactoring, human-in-the-loop review

BACKEND PRODUCT ENGINEERING: OWN PRODUCTS, 2024 – 2026

ContractorPro | contractorpro.app

Leads, quotes, job cards and invoices for South African contractors and home customers 2024 – 2025

- Designed an event-driven C# / ASP.NET Core API on Azure: Marten event-sourced documents in PostgreSQL, with Wolverine handling messaging between components over Azure Service Bus.
- Unit and integration tests run locally in Docker; CI/CD on GitHub Actions. Serves React Native iOS and Android apps.

STACK C# · ASP.NET Core · Marten · Wolverine · PostgreSQL · Azure Service Bus · Azure · Docker · GitHub Actions

Cosplay Platform

Social and contest platform for cosplayers at large fan conventions: profiles, entry, judging, results 2024 – 2025

- Built a C# / ASP.NET Core API on Azure with Cosmos DB; components communicate via messaging, eventually consistent.
- Azure DevOps CI/CD from unit tests through integration tests, with Docker in the delivery setup.

STACK C# · ASP.NET Core · Azure Cosmos DB · Azure · Azure DevOps · Docker

CarwashPro

Mobile web app tracking cars from licence-disc scan to collection, with text messages at key stages 2026

- Built a C# / ASP.NET Core API with Marten documents in PostgreSQL on Supabase and Wolverine for asynchronous messaging; provides a live queue view and wash-volume analytics.
- Unit and integration tests in Docker; CI/CD on GitHub Actions.

STACK C# · ASP.NET Core · Marten · Wolverine · PostgreSQL · Supabase · Docker · GitHub Actions

SELECTED ACHIEVEMENTS

- Uniper:** led the rewrite of a failed PPA valuation system on ASP.NET Core, SignalR and Cosmos DB; critical paths 10 times faster.
- Chelsea FC:** Azure Functions over Event Hubs turned live 10 Hz GPS data into per-second metrics; reliable tracking of 20+ players.
- DigitalTwin:** architected a multi-tenant CQRS IoT SaaS platform on ASP.NET Core and Azure, acquired by a partner in 2022.

CONTRACT AND CAREER HISTORY

Lead Front-End Developer | corfinancial (Salerio)

Via Digerterre | London, UK (remote) | Capital markets Feb 2026 – Present

- Leading the rewrite of Salerio, a trade management platform, from a legacy C# Windows UI to React and TypeScript, as one of two developers; about 90% delivered so far.

Business Analyst and Software Architect | Stuart Peters (PLM replacement)

Via CodeStream | London, UK and Hong Kong | Fashion design and sourcing Apr 2025 – Dec 2025

- Wrote a 130-page PLM report after stakeholder interviews; the business adopted Lectra Kubix Link, which I recommended.
- Took over support and maintenance of the React and MongoDB supplier-workflow application.

Full-Stack Consultant | corfinancial (bitarisk REG9 compliance module)

Via Digiterre | Remote | Wealth and portfolio management

Jul 2024 – Mar 2025

- Built the REG9 compliance module for bitarisk, a private client portfolio management system, integrating new Angular components with backend services and APIs, in a fully remote team of five.

Full-Stack Consultant | London Stock Exchange Group (TM3)

Via Digiterre | Remote | Financial markets, fixed income

Jun 2023 – Jul 2024

- Redeveloped TM3, a US municipal bond product, for LSEG Workspace: Node.js and GraphQL service layer integrating multiple data sources, with live trades streamed over WebSockets. Multiple releases moved clients off the legacy product.

STACK [Node.js](#) · [GraphQL](#) · [WebSockets](#) · [TypeScript](#) · [Web Components](#)

Lead Full-Stack Consultant | Uniper (PPA Model Valuation Desktop)

Via Digiterre | London, UK (remote) | Energy trading

Jul 2022 – May 2023

- Led a full-stack team rewriting a failed PPA valuation system on C# / ASP.NET Core, SignalR and Azure Cosmos DB.
- Rewrote the critical paths, making key functional areas 10 times faster.

STACK [C#](#) · [ASP.NET Core](#) · [SignalR](#) · [Azure Cosmos DB](#) · [Angular](#) · [TypeScript](#)

Full-Stack Developer | Clifford Chance (PartnerHub)

Via CodeStream | London, UK (remote) | Legal, global partner remuneration

Jan 2022 – Jul 2022

- Implemented interest calculation functions for PartnerHub, the firm's global partner remuneration system across multiple tax regimes, including ad hoc events and quarterly interest reconciliation.
- Built the proof of concept that started the move from ASP.NET MVC to Angular with an ASP.NET Core API; added RBAC.

STACK [C#](#) · [ASP.NET Core](#) · [ASP.NET MVC](#) · [SQL Server](#) · [Azure](#) · [Angular](#)

Full-Stack Consultant | Anglo American (Live Exposure Reporting)

Via Digiterre | London, UK (remote) | Commodities trading

Jul 2021 – Dec 2021

- Built intraday exposure reporting on C# / ASP.NET Core services, broadcasting trades in real time with SignalR and using Azure Synapse for large, frequently changing multi-dimensional datasets.

Co-founder, Architect and Lead Developer | DigitalTwin

Multi-tenant IoT SaaS for live asset tracking

2020 – 2022

- Architected a multi-tenant platform tracking Bluetooth Low Energy (BLE) tagged assets in real time through fixed gateways.
- Designed the ingest, tenant, reporting and management APIs as CQRS (MediatR) with separate read and write models, audit trails and pre-aggregated reporting; Azure Functions for messaging and PDF generation; SignalR for live updates.
- A partner productised it as a retail trolley management system and acquired it in 2022; I led the full technical handover.

STACK [ASP.NET Core 5](#) · [SQL Server](#) · [EF / Dapper](#) · [Azure Functions](#) · [SignalR](#) · [Azure AD B2C](#) · [Azure DevOps](#) · [Serilog](#) · [App Insights](#)

Software Developer | Chelsea FC (live player telemetry)

Direct engagement via CodeStream | London, UK (remote) | Sports performance analytics

Aug 2018 – Aug 2020

- Built an Azure Function aggregating live 10 Hz GPS data from Event Hubs into per-player, per-second metrics for the analytics API.
- Built the SQL Server session loader, diagnostics, CI/CD and Azure AD migration; live tests became reliable for 20+ players.

STACK [C#](#) · [Azure Functions](#) · [Azure Event Hubs](#) · [SQL Server](#) · [Power BI](#) · [Azure DevOps](#) · [Azure AD](#)

Consultant Developer | The SPAR Group

Via CodeStream | Durban, South Africa | Retail

2017 – 2021

- Replicated operational data from disparate legacy stores into an Azure SQL data lake, built C# / ASP.NET Web API reporting endpoints and moved pipelines towards Data Factory and Synapse.
- Built distributed master-data systems across SAP, iSeries/AS400 and SQL Server, with IBM Integration Bus workflows.

STACK [C#](#) · [ASP.NET Web API](#) · [Azure SQL](#) · [Data Factory](#) · [Synapse](#) · [SAP APIs](#) · [IBM Integration Bus](#)

CTO, then Technology Partner | SMEasy

Durban, South Africa | Online accounting SaaS for SMEs

2015 – 2024

- CTO (2015–17): board technology strategy, architecture, developers and contractors. Technology partner (2017–24): OAuth partner API for fintech integrations, the Absa white-label edition, reporting, Azure and SQL operations.
- Technical lead (2023) for an outsourced front-end rewrite to go-live in Jan 2024; handed over GitHub, pipelines and Azure.

Other Contracts

2008 – 2021

- CodeStream clients (2017–21):** Veridot micro-dotting backend APIs, moved to managed Azure; PROFiltr Node.js/MongoDB marketplace.
- London (2008–15):** via Digiterre, EDF Trading initial-margin reporting, E.ON transfer pricing (team lead) and CI/CD at M&G; MAN Investments pub/sub integration (WebLogic, MSMQ); Brit Insurance (NServiceBus); Freshfields.

EDUCATION AND CERTIFICATIONS

Bachelor of Commerce, specialising in Informatics | University of South Africa (UNISA), 2004

MCSD, Microsoft Certified Solution Developer | Microsoft, 2001